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AA**TRANSMITTAL OF APPEAL BRIEF**Docket No.
LA-6658-109US

In re Application of: Michael Cohen

Application No. 10/685377	Filing Date October 13, 2003	Examiner T. Chambers	Group Art Unit 3641
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Invention: A MODULAR ARMORED VEHICLE SYSTEM

TO THE COMMISSIONER OF PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal
filed: January 12, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant	:	Michael Cohen	
Filed	:	October 13, 2003	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl. No. : 10/685,377 Confirmation No.: 4408
Applicant : Michael Cohen
Filed : October 13, 2003
TC/A.U. : 3641
Examiner : Troy Chambers
Docket No.: 6658-109XX/10313085
Customer No. : 000167

**APPELLANT'S BRIEF
PURSUANT TO 37 C.F.R. § 1.192**

REAL PARTY IN INTEREST

The real party-in-interest is the individual inventor, Michael Cohen.

RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

STATUS OF THE CLAIMS

Claims 1 through 14 are pending in the application. Claims 1 through 14 have been rejected and the rejection is final and the claims appealed are 1 through 14.

STATUS OF AMENDMENTS

A supplemental amendment correcting a typographical error was filed January 7, 2005 and a response thereto was mailed January 24, 2005 indicating that the amendment would be entered for purposes of appeal.

An additional supplemental amendment was filed March 8, 2005 substituting a new Figure 3 to correct numerals appearing on Figure 3 of the drawings as filed with the amendment of November 11, 2004 to conform to the numerals in the specification amendment and is presently pending.

SUMMARY OF THE INVENTION

A modular armored vehicle system including an armored combat vehicle [Fig. 1(2); Fig. 3(2)] chassis having a plurality of openings [Fig. 3(16, 18, 20)] therein with a plurality of composite armor plates [Fig. 1, Fig. 2, Fig. 3(4)], each being adapted for attachment [Fig. 2(14), Fig. 4(22, 23, 24)] to the chassis to cover one of the openings (page 3, lines 1 through 6), each of the armor plates comprises a single layer of bodies [Fig. 2(6)] of ceramic material (page 3, lines 6 and 7) having a specific gravity of at least 2.4 (page 3, line 10) which bodies are directly bound and retained in plate form by a solidified material (page 9, lines 13 through 17) with a majority of each of the bodies being in direct contact with at least four adjacent bodies (page 3, lines 8

through 10), the solidified material and the resultant plate being elastic (page 3, line 9; page 4, lines 14 through 16).

ISSUES

(A) Whether or not the amendment filed November 11, 2004 adding new Figures 3 and 4 and the accompanying description thereof to the specification is new matter.

(B) Whether claims 1 through 9 are unpatentable under 35 U.S.C. § 103(a) over Cohen U.S. 6,289,781 in view Middione, et al. U.S. 6,082,240.

(C) Whether claims 10, 13 and 14 are unpatentable under 35 U.S.C. § 103(a) over Cohen U.S. 6,289,781 in view of Middione, et al. U.S. 6,082,240 and further in view of Cohen U.S. 6,575,075.

(D) Whether claims 10, 11 and 12 are unpatentable under 35 U.S.C. § 103(a) over Cohen U.S. 6,289,781 in view of Middione, et al. U.S. 6,082,240 and further in view of Ferguson U.S. 4,131,053 or Slater G.B. 2,277,141.

GROUPING OF CLAIMS

The grouping of the claims as set forth above stand or fall together.

ARGUMENTS

WHETHER FIGURES 3 AND 4 AND THE DESCRIPTIVE MATERIAL ADDED TO THE SPECIFICATION BY THE AMENDMENT FILED ON 11 NOVEMBER 2004 IS NEW MATTER

In the final rejection dated December 17, 2004, the Examiner stated as follows:

“The Amendment filed 11/11/04 is objected to under 35 U.S.C. § 132 because it introduces new matter into the disclosure. 35 U.S.C. § 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amendment to the written specification and the additional drawing Figures 3 and 4.

Applicant is required to cancel the new matter in the reply to this Office Action.”

Appellant respectfully submits that this issue of new matter affects the patentability of the claims and is therefore properly before this Honorable Board.

In the Office Action dated August 20, 2004, the Examiner stated as follows:

“The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the chassis having a plurality of openings (claim 1), the outer, impact receiving panel (claim 1), and the adaptation of each plate for attachment to the chassis (claim 1) must be shown or the feature(s) cancelled from the claim(s). No new matter should be entered.”

The Examiner further stated in paragraph 3 of the Office Action:

“The drawings are objected to under 37 C.F.R. § 1.83(a) because they fail to show the openings of the vehicle and the means for securing the panels to an opening in said vehicle as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).”

37 C.F.R. § 1.83(a) provides that “The drawing in a non-provisional application must show every feature of the invention specified in the claims.”

37 C.F.R. § 1.83(c) provides that “Where the drawings in a nonprovisional application do not comply with the requirements of paragraphs (a) and (b) of the section, the examiner shall require such additional illustration within a time period of not less than two months from the date of the sending of a notice thereof.”

Appellant is aware of the provision of 37 C.F.R. § 1.81(d) where it states that “Drawings submitted after the filing date of the application may not be used to overcome any insufficiency of the specification due to lack of an enabling disclosure or otherwise inadequate disclosure therein, or to supplement the original disclosure thereof for the purpose of interpretation of the scope of any claim.”

Appellant respectfully submits that the added matter as shown in the newly submitted Figures 3 and 4 and the descriptive material added to the specification are fully supported by the application as originally filed and merely clarify or make definite what was originally disclosed in the application as filed and therefore do not violate the rule on new matter.

As was stated by the Federal Circuit in Schering Corp. v. Amgen Inc., 222 F.3d 1347, 1352, 55 USPQ.2d 1650, 1653-54 (Fed. Circ. 2000) "the fundamental inquiry is whether the material added by amendment was inherently contained in the original application To make this judgment, this Court has explained that the new matter prohibition is closely related to the adequate disclosure requirements of 35 U.S.C. § 112 Thus, to avoid the new matter prohibition, an applicant must show that its original application supports the amended matter."

See also SDS U.S.A., Inc. v. Ken Specialties, Inc., 122 F.Supp.2d 533, 534, 62 USPQ.2d 1325 (D.N.J. 2000).

An amendment to a specification does not violate the new matter rule if it merely "clarifies or completes" the original disclosure. Further, the specification and drawings may be amended to conform to each other. As set forth in Tektronix, Inc. v. United States, 445 F.2d 323, 326-27, 165 USPQ 392, 394 (Ct. Cl. 1971), appeal after remand, 575 F.2d 832, 198 USPQ 378 (Ct. Cl. 1978), cert. denied, 439 U.S. 1048 (1978). "In essence, what the applicant did was amend the drawing and specification in response to queries by the patent examiner, and thereby simply made explicit a disclosure which was implicit in the application as filed."

Court decisions state in various ways that specifications may be amended to clarify the original disclosure. Thus, insertions by way of amendment in the description or drawing, or both, of a patent application is not new matter if they are only an amplification and explanation of what was already reasonably indicated to be within the invention. An amendment to an application is not new matter within the patent act or rules of the Patent Office unless it discloses an invention process or apparatus not theretofore described. If the latest submitted material accused of being new matter simply clarifies or completes the prior disclosure it cannot be treated as new matter. If the amendments to the specification merely render explicit what had

been implicitly disclosed originally even though new language has certainly been added, such new language is not ipso facto new matter. In re Wright, 343 F.2d 761, 767, 145 USPQ 182, 188 (CCPA 1965).

In a sense, anything inserted in a specification that was not there before is new material in the specification, this fact does not necessarily mean it is prohibited as "new matter". In re Oda, 443 F.2d 1200, 1203, 170 USPQ 268 (CCPA 1971).

An applicant's invention disclosure includes both the drawings submitted with the application on filing and the claims in the specification as originally filed. Ex Parte Gould, 6 USPQ.2d 1680, 1681 (Board of Patent Appeals and Interferences 1987).

Where a patent application as filed contains a claim which specifically discloses something not disclosed in the descriptive part of the specification (claims being technically part of the specification), the applicant may amend the specification without being charged with adding "new matter". In re Benno, 768 F.2d 1340, 1346, 226 USPQ 683, 686-687 (Fed. Circ. 1985). Although not specifically part of either the drawing or specification, the original claims of a patent application constitute a part of the disclosure of the invention within the meaning of 35 U.S.C. § 132. Twin Disc., Inc. v. United States, 10 Cl. Ct. 713, 231, 231 USPQ 417, 435 (Cl. Ct. 1986).

Review of an Examiner's holding on new matter may be by a Petition to the Commissioner or by an appeal to the Board of Appeals depending on whether the allowability of claims is affected. Where the alleged new matter is confined to amendments to a specification, review of the Examiner's requirement for cancellation is by way of petition. But where the alleged new matter is introduced into or affects the claims necessitating their rejection on this

ground, the question becomes an appealable one and should not be considered on petition even though that alleged new matter has been introduced into the specification.

See also MPEP § 608.01(l) which states

“In establishing disclosure, applicant may rely not only on the description and drawing as filed but also on the original claims if their content justifies it.

Where subject matter are not shown on the drawing or described in the description is claimed in the application as filed, and such original claim itself constitutes a clear disclosure of this subject matter, and the claim should be treated on its merits, and requirement made to amend the drawing and description to show this subject matter. The claim should not be attacked either by objection or rejection because this subject matter is lacking in the drawing and description. It is the drawing and description that are defective, not the claim.

It is, of course, to be understood that this disclosure in the claim must be sufficiently specific and detailed to support the necessary amendment of the drawing and description.”

THE AMENDMENT OF NOVEMBER 11, 2004

In response to the objection to the drawings based on 37 C.F.R. § 1.83(a) of the Office Action of August 20, 2004, in that every feature of the invention specified in the claims must be shown in the drawings, new drawings, Figures 3 and 4, were submitted along with an amendment to the specification describing the content of those drawings. Figure 3 illustrated the armored vehicle of the present invention with six openings in one side thereof with three of the

openings covered by an armor plate while the remaining three openings were left uncovered but with an armor plate ready to be lowered into position to cover the opening. Figure 4 illustrated a more detailed view of an armor plate constructed as shown in original Figure 2 but with more detailed attachment means. As indicated above, the amendment to the specification merely described the contents of Figures 3 and 4 as presented as a result of the objection by the Examiner in that the features set forth in the claims, namely a plurality of openings, the outer impact receiving panel, the adaptation of each plate for attachment to the chassis must be shown, such was done. The newly added descriptive material to the specification read as follows:

Referring now more particularly to Figure 3 there is illustrated a vehicle 2 with a plurality of openings 16, 18, 20 in one side thereof. A composite armor plate 4 is shown positioned to be lowered into place to cover the opening 18 and is adapted to be attached to the side of the vehicle 2 to protect the occupants from incoming projectiles. Similar armor plates would be used to cover the openings 16 and 18 and are shown in position on the forward portion of the vehicle. Obviously similar armor plates would be used on the other surface of the vehicle.

As shown in Figure 4, to which reference is hereby made, there is shown in greater detail the armor plate 4. As is therein shown, the armor plate 4, which may be constructed as described with respect to Figure 2, is adapted to be attached to the vehicle by way of fasteners 22 which are received in openings 23 in the frame 25 to engage openings 24 in the plate 4 to form the attachment means 14 to secure the armor plate to the vehicle 2. Obviously the frame(s) 25 may be attached to the vehicle 2 prior to inserting the armor plate therein or alternatively the plate and frame may be assembled and secured in place on the vehicle 2.

THE APPLICATION AS ORIGINALLY FILED

Claim 1 recites:

“A modular armored vehicle system comprising an armored combat vehicle chassis having a plurality of openings and a plurality of composite armor plates for absorbing and dissipating kinetic energy from high velocity, armor-piercing projectiles, each of said plates being adapted for attachment to said chassis and sized to cover at least one of said openings . . .” (emphasis added)

Claim 2 recites “A modular vehicle system according to claim 1 wherein said plate constitutes comprises an outer, impact receiving panel of a multilayered armor panel . . . wherein said outer plate serves to deform and shatter an impacting high velocity armor-piercing projectile . . .” (emphasis added)

Figure 1 as originally filed depicted an armored vehicle 2 which has an armor plate 4 of the construction as shown in Figure 2 provided in an opening (not shown) of the vehicle 2. As illustrated in Figure 2 an opening 14 served as an attachment means for securing the panel to an opening in the vehicle chassis.

On page 3, first paragraph of the specification, as filed, it is stated “Thus, according to the present invention there is now provided a modular armored vehicle system comprising an armored combat vehicle chassis having a plurality of openings and a plurality of composite armor plates for absorbing and dissipating kinetic energy from high velocity, armor-piercing projectiles, each of said plates being adapted for attachment to said chassis and sized to cover at least one of said openings . . .” (emphasis added)

Paragraph on page 6, fourth full paragraph, it is stated "... none of them teach or suggest the concept of a modular armored vehicle system for use in producing armored combat vehicles wherein the armor panels serve as stand-alone rather than add-on protection for an armored vehicle and are adapted for attachment to an armored combat vehicle chassis to cover openings provided therein." (emphasis added)

On page 10 of the specification, fourth full paragraph, as original filed, it is stated:

"Referring to Fig. 1, there is seen an armored vehicle 2 wherein a panel 4 of the present invention having a plurality of pellets 6 of substantially cylindrical prismatic bodies 8 with convexly curved end faces 10 as more fully seen with reference to Fig. 2 has been provided in an opening (not shown) of said vehicle 2."

On page 4 of the specification, fifth full paragraph, it is stated "In preferred embodiments of the present invention, said plate constitutes an outer, impact receiving panel of a multi-layered armor panel . . . wherein said outer plate serves to deform and shatter an impacting high velocity armor-piercing projectile . . ."

In the last full paragraph, it is stated "In further preferred embodiments of the present invention, said plate constitutes an outer, impact receiving panel, a second ballistic panel as defined above as well as comprising a third backing layer for absorbing trauma."

On page 5 of the specification as filed, in the fourth full paragraph after a description of interchangeable armor plates capable of dissipating energy from various sized projectiles, it is stated: ". . . said plates being interchangeably mountable on said combat vehicle chassis for covering the plurality of openings provided in said chassis for said purpose." (emphasis added)

On page 10, last full paragraph, there is a description of the armor panel as illustrated in Figure 2 and it is stated "... wherein said outer plate 5 serves to deform and shatter an impacting high velocity armor-piercing projectile 12"

On page 11, third full paragraph of the specification as originally filed, it is stated "In operation of the panel 4 of the present invention acts to stop an incoming projectile and one of the three modes of center contact, flank contact and valley contact as described hereinafter."

On the same page under description of center contact, the orientation and shape of the pellets contained within the panel is discussed followed by the statement "The pellets used are either spheres or other regular geometric shapes having at least one convexly curved end face, said end face being oriented to substantially face in the direction of an outer impact receiving major surface of said plate." (emphasis added)

Appellant respectfully submits that after thorough consideration of the foregoing material contained in the specification, claims and drawings as originally filed it is clear that such provides complete support for the new Figures 3 and 4 and the descriptive material relative thereto submitted with the amendment of November 11, 2004. As above indicated, there are numerous references in the specification and in the claims of the vehicle having a chassis with a plurality of openings. Therefore, the new drawing Figure 3 which discloses the vehicle chassis having the plurality of openings 16, 18 and 20 therein is fully supported by the disclosure material contained in the application as originally filed.

The existence of an outer impact receiving panel was fully disclosed in Figure 2 and the descriptive material with regard thereto as well as the additional descriptive material above

referred to contained in the specification and thus it is respectfully submitted that the requirement for a new drawing to show such was not required.

The adaptation of each plate for attachment to the chassis was disclosed originally in Figure 2 and implicitly in Figure 1 as filed and the descriptive material contained various portions in the specification and claims, above referred, to fully support the attachment means as shown in Figure 4 and Figure 3 as newly submitted as well as the description thereof.

Appellant therefore respectfully submits that the new drawings, Figures 3 and 4, submitted in response to the requirement set forth in the Office Action of August 20, 2004 merely clarifies or makes definite what was originally disclosed in the specification as filed or was inherently contained therein and therefore the amendment of November 11, 2004 do not violate the new matter rule.

In view of the foregoing, Appellant respectfully request this Honorable Board to reverse the Examiner's requirement set forth in the final Office Action that the Figures 3 and 4 and the description thereof be cancelled. If such was done the claims would not be patentable for failure to illustrate in the drawings every feature of the invention specified in the claims.

ARE CLAIMS 1, 2, 3, 4, 5, 6, 7, 8 AND 9 UNPATENTABLE
UNDER 35 U.S.C. § 103(a) OVER COHEN U.S. 6,289,781
IN VIEW OF MIDDIONE, ET AL. U.S. 6,082,240

35 U.S.C. § 103(a) provides:

“(a) patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have

been obvious at the time the invention was made to a person having ordinary skill in the art to which that subject matter pertains. Patentability shall not be negated by the manner in which the invention was made."

The Federal Circuit has postulated two related tests for determining obviousness based on the prior art in In re Sernaker, 702 F.2d 989, 217 USPQ 1 (Fed. Circ. 1983). These two related tests are (a) whether a combination of the teachings of all or any of the references would have suggested (expressly or by implication) the possibility of achieving further improvement by combining such teachings along the line of the invention ensued, and (b) whether the claimed invention achieved more than a combination which any or all of the prior art references suggested, expressly or by reasonable implication.

Numerous decisions emphasize that a combination of referenced teachings is improper unless the prior art suggests such a combination. In re Bond, 910 F.2d 831, 15 USPQ.2d 1566 (Fed. Circ. 1990). A challenger cannot select from individual elements of assorted prior art references to re-create the claimed invention. The challenger has the burden to show some teaching or suggestion in the references to support the particular claimed combination. Smith Kline Diagnostics, Inc. v. Helena Laboratories Corp., 859 F.2d 878, 887, 8 USPQ.2d 1468, 1475 (Fed. Circ. 1988).

When the references are in the same field as that of the applicant's invention, applicability thereof is presumed. However, the test of whether it would have been obvious to select specific teachings and combine them as has the applicant must still be met by identification of some suggestion, teaching or motivation in the prior art arising from what the prior art would have taught a person of ordinary skill in the field of the invention. In re Dance,

160 F.3d 1339, 1343, 48 USPQ.2d 1635, 1637 (Fed. Circ. 1998). The mere fact that all of the prior art is within the same field does not without more supply a teaching of motivation to combine. Sunrise Medical HHG, Inc. v. AirSep Corp., 95 F.Supp.2d 348, 452 (WD Pa. 2000).

There are well settled principles that the claimed invention must be considered as a whole, multiple cited prior art references must suggest the desirability of being combined, and the references must be viewed without the benefit of hindsight offered by the disclosure of the inventor. In re Paulsen, 30 F.3d 1475, 1482, 31 USPQ.2d 1671, 1676 (Fed. Circ. 1994).

Although it is suggested that the structure in the primary prior art reference could readily be modified to form the claimed structure, the mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification. In re Laskowski, 871 F.2d 115, 117, 10 USPQ.2d 1397, 1398 (Fed. Circ. 1989). In re Oatiker, 977 F.2d 1443, 24 USPQ.2d 1443 (Fed. Circ. 1992), the court reiterated that “there must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination” and “that knowledge cannot come from the applicant’s invention itself.” In In re Dembicza, 175 F.3d 1994, 50 USPQ.2d 1614 (Fed. Circ. 1999), it was emphasized that to reject an inventor’s claim for obviousness in view of a combination of prior art references, a showing of a suggestion, teaching, or motivation must be clear and particular.

THE PRIOR ART

Cohen 6,289,781 does disclose a composite armor plate made of a single internal layer of pellets which are directly bound and retained in plate form by a solidified material wherein the pellets have a specific gravity of at least 2 and are made from various materials including

ceramic and are bound in a single layer such that each of a majority of the pellets is in direct contact with at least four adjacent pellets and the solidified material and the plate are elastic. There is a teaching in Cohen '781 that the armor plates may be used to provide ballistic protection for light and heavy mobile equipment and vehicles against high speed projectiles or fragments. Cohen '781 also teaches that the armor panel may be multilayered and have an outer impact receiving layer and an inner layer adjacent to the outer layer.

There is no teaching in Cohen '781 nor even a suggestion that a plurality of armor plates may be provided for attachment to an armored vehicle chassis to cover openings therein. The armor plate of Cohen '781 may very well be applied to the outside of a vehicle as a cladding or as suggested therein it may even be light enough to be worn as clothing. The examiner has suggested that the Cohen '781 armor plates are adapted for attachment (capable of attachment) to a chassis of an armored vehicle (by any means of attachment including placement on top of the vehicle) and sized to cover at least one opening contained within a vehicle. Appellant respectfully submits that Cohen '781 does not suggest or even hint that the armor plate disclosed therein covers any opening contained within any vehicle. Such a suggestion can be found only in Appellant's application and as above pointed out to utilize Appellant's disclosure against the Appellant is improper. The Examiner in the final Office Action admits that "Cohen does not disclose an armored combat vehicle chassis having a plurality of openings." If such be the case, how can Cohen '781 then suggest that the armor plate is "sized to cover at least one opening contained within a vehicle."

The Examiner then states "Cohen does not disclose an armored combat vehicle chassis having a plurality of openings. Middione discloses a modular armor mounting system for an armored vehicle 16 having openings (Figs. 2, 4 and 5). At the time of the invention one of

ordinary skill in the art would have found it obvious to provide the mounting system of Middione (including the openings in the hull of the vehicle). The suggestion/motivation for doing so would have been to avoid prior art armor mounting systems in which loads are concentrated around the mounting screws."

Appellant respectfully submits that the Examiner has totally mischaracterized the teachings of Middione. Middione does relate to providing armor to vehicles in military applications and to the use of modular armor which is applied to the vehicle hull. The vehicle hull is illustrated in Middione at 16 (Figs. 1 and 2), 56 (Figs. 3 and 4), 116 (Fig. 5), and 216 (Fig. 6). Appellant respectfully submits that there is no illustration nor is there any description or even hint of the vehicle hull having openings therein. The Examiner has referred to the openings in Figs. 2, 4 and 5 and in Paragraph 5 points out that the openings to which are being referenced are the threaded screw holes which Examiner states "said holes opening the interior of the vehicle skin to the outside environment." It is quite evident by referring to Figures 2, 4 and 5 and, by implication to Figure 6, that the vehicle hull has blind holes drilled therein which are then tapped to provide threads to receive a rail screw (29 in Fig. 2, 69 in Fig. 4 and 233 in Fig. 6) which secures the crosspiece 31, a rail 60 (Fig. 3 and 4), rails 120 (Fig. 5) and rails 220 (Fig. 6) to the vehicle hull 16, 56, 116 and 216, respectively. The crosspiece and rails are then used to support a bracket system such as the first bracket system 17 and the second bracket system 18 or the first, second and third bracket systems 56, 58 and 59 at Figs. 3 and 4, etc. to the vehicle hull. Each of the bracket systems involved includes an elastomeric clamp such as 23 (Figs. 1 and 2) which presses against the outer surface of an armor panel 15 to secure the panel against the vehicle hull 16. It is cleawr that this clamping system was invented to eliminate the use of screws which penetrates the armor to attach it to the vehicle (Middione et al., Col. 1, lines 13-16). This is the

“suggestion” referred to by Examiner in paragraph 2 for combining Cohen ‘781 and Middione et al. This “suggestion” is inapplicable because as shown in Figure 2, 3 and 4, Applicant’s armor panels are attached by fasteners such as bolts which pass through the armor panel.

It is clear from Applicant’s specification that the term “openings” as referred to in the specification and claims and as illustrated in the drawings refers to openings which have been formed in the chassis of a vehicle to reduce its weight so that it can be airlifted to a remote location from which the vehicle is to be deployed and after arrival at that location the modular armor plates are attached to the chassis of the vehicle to cover those openings and thus protect the occupants of the vehicle from projectiles which may be shot at the vehicle. See page 1, full paragraphs 3 and 4 of the specification.

Appellant respectfully submits that the teachings of Middione do not cure the defect of Cohen relating to the lack of a vehicle chassis having a plurality of openings. If the mounting system of Middione including the openings receiving the rail screws were combined with the teachings of Cohen all that would be provided would be a plurality of bracket systems including elastomeric materials used to supply a load bearing force on the armor panels to maintain them in contact with the exterior surface of the vehicle hull. Since neither Cohen ‘781 or Middione disclose or even hint at a vehicle chassis having openings therein as claimed in the invention, such a combination, Appellant respectfully submits would not render claims 1, 2, 3, 4, 5, 6, 7, 8 and 9 obvious and thus unpatentable over 35 U.S.C. § 103(a).

Claim 1 recites: A modular armored vehicle system comprising an armored combat vehicle chassis having a plurality of openings and a plurality of composite armor plates for absorbing and dissipating kinetic energy from high velocity, armor-piercing projectiles, each of

said plates being adapted for attachment to said chassis and sized to cover at least one of said openings wherein each of said plates comprises a single layer of bodies which are directly bound and retained in plate form by a solidified material wherein a majority of each of said bodies is in direct contact with at least four adjacent bodies, wherein the solidified material and the plate are elastic and wherein said bodies have a specific gravity of at least 2.4 and are made of a ceramic material.

Wherein Cohen '781 or Middione, et al. or the combination thereof is there disclosed an armored combat vehicle chassis having a plurality of openings? Where in Cohen '781 or Middione, et al. is there disclosed a plurality of composite armor plates adapted for attachment to said chassis and sized to cover at least one of said openings? Where in Cohen '781 or Middione, et al. or the combination thereof is there disclosed that the composite armor plates which cover chassis openings are comprised of bodies of ceramic material having a specific gravity of at least 2.4? Appellant respectfully submits that the combination of Cohen '781 and Middione et al. does not teach the invention as claimed.

Appellant respectfully submits that the combination of elements set forth in claim 1 are not found in Cohen '781 or Middione, et al. or the combination of those two references and that such combination of elements defines a modular armored vehicle system which is patentable.

Claim 2 is dependent upon Claim 1 and thus contains the same limitations as above described but adds a second ballistic panel to the composite armor plate. Appellant respectfully submits that Claim 2 is also allowable for the same reasons as was Claim 1 in that it merely adds additional elements further limiting Claim 1.

Claim 3 is dependent from Claim 1 and merely defines the shape of the bodies in the composite armor plate as being in the form of pellets. Such merely adds a further limitation to Claim 1 and thus Appellant respectfully submits that Claim 3 is also patentable for the same reasons as is Claim 1.

Claim 4 is dependent from Claim 1 and like Claims 2 and 3 merely adds additional limitations to the structure set forth in Claim 1 and therefore Appellant respectfully submits is also allowable for the same reasons as in Claim 1.

Claim 5 is also dependent from Claim 1 but further defines the modular armored vehicle system as comprising a plurality of interchangeable armor plates with each of the plates having pellets sized to absorb high velocity armor-piercing projectiles of different sizes. Such interchangeable armor plates is not disclosed or hinted at in the references. Appellant respectfully submits that Claim 5 is patentable for the same reasons as Claim 1 in that it contains the same limitations not disclosed in the prior art references and adds further limitations thereto.

Claim 6 is dependent from Claim 1 and adds the additional limitation that the bodies in the armor plates have a regular geometric cross-sectional area. Such adds an additional limitation to the structure of Claim 1 and since Claim 6 includes the same limitations as Claim 1 Appellant respectfully submits that Claim 6 is also allowable over the references.

Claim 7 is also dependent from Claim 1 and further defines the bodies as being in the form of pellets having at least one convexly curved outwardly facing end face thus adding further limitations to the structure of Claim 1 and Appellant respectfully submits that Claim 7 is patentable for the same reasons as was Claim 1.

Claim 8 is also dependent from Claim 1 and further defines the bodies in the plates as having at least one circular cross-section thus thereby further limiting the construction of the armor plate as defined in Claim 1 and Appellant respectfully submits that Claim 8 is also patentable for the same reasons as was Claim 1.

Claim 9 is also dependent from Claim 1 and further defines the bodies as having a shape in the form of pellets with each having at least one axis of at least 9 mm in length with that axis being substantially perpendicular to the outer, impact-receiving face of the plate. Such structure adds additional limitations to the structure as defined in Claim 1 and thus Appellant respectfully submits that Claim 9 is patentable for the same reasons as was Claim 1.

For the foregoing reasons, Appellant respectfully submits that Claims 1 through 9 are each distinguishable over Cohen '781 and Middione, et al. and thereby define patentable structure. Appellant therefore respectfully requests this Honorable Board to reverse the final rejection of Claims 1 through 9 as being unpatentable under 35 U.S.C. § 103(a) over Cohen '781 in view of Middione et al.

ARE CLAIMS 10, 13 AND 14 UNPATENTABLE OVER
COHEN '781 AND MIDDIONE, ET AL.
FURTHER IN VIEW OF COHEN 6,575,075

The discussion above set forth with respect to Claims 1 through 9 is incorporated herein by reference. The combination of Cohen '781 and Middione, et al. was applied by Examiner as it was applied to Claims 1 through 9. The Examiner states that the combination of Cohen '781 and Middione, et al. however does not disclose the addition of a third backing layer of metal. The Examiner then relies upon Cohen 6,575,075 to correct that deficiency. Appellant recognizes and admits that Cohen '075 does disclose a third backing layer 50 of aluminum on a composite

armor plate. However, Appellant respectfully submits that Claim 10 is dependent from Claim 2 which in turn is dependent from Claim 1 and therefore contains the same limitations above described with respect to Claim 1 but merely adds the additional limitation of a third backing layer for absorbing trauma and Appellant respectfully submits as a result thereof defines patentably distinct subject matter for the same reasons as does claim 1.

Claim 13 is dependent from Claim 10 and merely further defines the third backing layer as being made from metal material. Since Claim 13 like Claim 10 contains the limitations of Claim 1 it is therefore patentable over the cited references.

Claim 14 is an independent claim which reads as follows: A modular armored vehicle system comprising an armored combat vehicle chassis having a plurality of openings and a plurality of composite armor plates for absorbing and dissipating kinetic energy from high velocity, armor-piercing projectiles, each of said plates being adapted for attachment to said chassis and sized to cover at least one of said openings wherein each of said plates comprises a single layer of bodies which are directly bound and retained in plate form by a solidified material wherein a majority of each of said bodies is in direct contact with at least four adjacent bodies, wherein the solidified material and the plate are elastic and wherein said bodies have a specific gravity of at least 2.4 and are made of a ceramic material, wherein said plate constitutes an outer, impact-receiving panel of a multilayered armor panel further comprising an intermediate layer adjacent to said outer plate, comprising a second ballistic panel, wherein said outer plate serves to deform and shatter an impacting high velocity armor-piercing projectile and said second ballistic panel is adapted to retain any remaining fragments from said projectile and from said bodies and to absorb remaining energy from said fragments and further comprising a third innermost backing layer for absorbing trauma.

Claim 14 like Claim 1 specifically recites a combat vehicle chassis having a plurality of openings with a plurality of composite armor plates each being adapted for attachment to the chassis and sized to cover at least one of the openings and then further specifies the structure of the composite armor plates as having an outer, impact-receiving panel formed of a single layer of ceramic bodies retained in a solidified material such that the material and the plate are elastic with the bodies being made of ceramic material having a specific gravity of at least 2.4 and further includes an intermediate layer comprising a second ballistic panel and a third backing layer for absorbing trauma.

Appellant hereby incorporates the discussion with regard to Claim 1 and its distinction over the cited references as above set forth. Claim 14 adds additional limitations with respect to the construction of the armor plates not contained in Claim 1 and Appellant respectfully submits that Claim 14 is patentable over Cohen '781, Middione, et al. and Cohen '075.

For the reasons set forth above, Appellant respectfully submits that Claims 10, 13 and 14 define subject matter which is patentable over the references Cohen '781, Middione, et al. and Cohen '075 and respectfully requests this Honorable Board to reverse the Examiner's final rejection of Claims 10, 13 and 14 as being unpatentable under 35 U.S.C. § 103(a) over those references.

ARE CLAIMS 10, 11 AND 12 UNPATENTABLE UNDER
35 U.S.C. SECTION 103(A) OVER COHEN '781, MIDDIONE, ET AL. FURTHER
IN VIEW OF FERGUSON 4,131,053 OR SLATER GB 2,277,141

Appellant hereby incorporates by reference the discussion above set forth with regard to Claims 1 through 9 relative to Cohen '781 and Middione, et al.

The discussion with regard to Claim 10 set forth above is incorporated herein by reference and for the same reasons set forth above appellant hereby submits that Claim 10 since it contains all of the limitations of Claim 1 and adds further limiting elements thereto also defines subject matter which is patentable over the references cited with respect thereto.

Claim 11 is dependent upon Claim 10 and also contains all of the limitations set forth in Claim 1 and further specifies elements limiting the structure thereof and for that reason appellant respectfully submits that Claim 11 is also allowable over the references of record.

Claim 12 is dependent from Claim 11 but further specifies that the reinforcing fibers are selected from a specified group thereby also further limiting the structure as set forth in independent Claim 10 from which Claim 12 is dependent and since it contains all of the limitations of Claim 1 which appellant submits is allowable. Appellant also submits that claim 12 is also allowable over the references of record.

Appellant respectfully submits that claims 10, 11 and 12 define subject matter which is patentably distinct over Cohen '781, Middione et al., and further in view of Ferguson '053 and Slater GB2,277,161 and respectfully request this Honorable Board to reverse the Examiner's final rejection of claims 10, 11 and 12 based thereon.

CONCLUSION

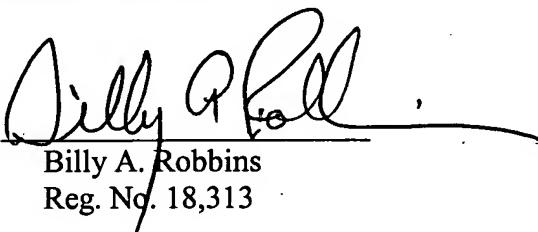
Appellant respectfully submits that Claims 1 through 14 contain limitations which are not disclosed or even hinted at in the prior art references taken singly or in combination. Therefore Appellant respectfully submits that Claims 1 through 14 define patentable subject matter and

Appellant respectfully requests that this Honorable Board reverse the Examiner's final rejection of Claims 1 through 14.

Appellant also respectfully submits that the material added to the specification and the drawings by the amendment of November 11, 2004 is fully supported by the original disclosure including the specification claims and drawings as filed and that the added material is by way of clarification and does not add new matter. Appellant therefore respectfully requests this Honorable Board to reverse the Examiner's requirement that the material added by the amendment of November 11, 2004 be cancelled.

Respectfully submitted,

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APPENDIX OF CLAIMS

Claim 1: A modular armored vehicle system comprising an armored combat vehicle chassis having a plurality of openings and a plurality of composite armor plates for absorbing and dissipating kinetic energy from high velocity, armor-piercing projectiles, each of said plates being adapted for attachment to said chassis and sized to cover at least one of said openings wherein each of said plates comprises a single layer of bodies which are directly bound and retained in plate form by a solidified material wherein a majority of each of said bodies is in direct contact with at least four adjacent bodies, wherein the solidified material and the plate are elastic and wherein said bodies have a specific gravity of at least 2.4 and are made of a ceramic material.

Claim 2: A modular vehicle system according to claim 1 wherein said plate comprises an outer, impact receiving panel of a multilayered armor panel further comprising an inner layer adjacent to said outer plate, comprising a second ballistic panel, wherein said outer plate serves to deform and shatter an impacting high velocity armor-piercing projectile and said second ballistic panel is adapted to retain any remaining fragments from said projectile and from said bodies and to absorb remaining energy from said fragments.

Claim 3: A modular armored vehicle system according to claim 1 wherein said bodies are in the form of pellets.

Claim 4: A modular armored vehicle system according to claim 1 wherein said bodies are made of a ceramic material.

Claim 5: A modular armored vehicle system according to claim 1 comprising a plurality of interchangeable plates, a first plurality of said plates having pellets sized to absorb and dissipate kinetic energy from high velocity armor-piercing 12.7 mm – 14.5 mm projectiles, a second plurality of said plates having pellets sized to absorb and dissipate kinetic energy from high velocity armor-piercing 14.5 mm – 30 mm projectiles, and a third plurality of said plates

having pellets sized to absorb and dissipate kinetic energy from high velocity armor-piercing projectiles of over 30 mm.

Claim 6: A modular armored vehicle system according to claim 1 wherein the bodies in said plates have a regular geometric cross-sectional area.

Claim 7: A modular armored vehicle system according to claim 1 wherein the bodies in said plates are in the form of pellets having at least one convexly curved outwardly facing end face.

Claim 8: A modular armored vehicle system according to claim 1 wherein the bodies in said plates have at least one circular cross-section.

Claim 9: A modular armored vehicle system according to claim 1 wherein the bodies in said plates are in the form of pellets, each having at least one axis of at least 9 mm length and each of a majority of said pellets is in direct contact with at least four adjacent pellets in the same layer to provide mutual lateral confinement therebetween and said at least one axis is substantially perpendicular to the outer, impact-receiving face of said plate.

Claim 10: A modular armored vehicle system according to claim 2 comprising a third backing layer for absorbing trauma.

Claim 11: A modular armored vehicle system according to claim 10 wherein third layer is formed of a polymeric matrix composite with reinforcing fibers.

Claim 12: A modular armored vehicle system according to claim 11 wherein said reinforcing fibers are selected from the group consisting of carbon fibers, aramid fibers and glass fibers.

Claim 13: A modular armored vehicle system according to claim 10 wherein said third backing layer is made of a metal material.

Claim 14: A modular armored vehicle system comprising an armored combat vehicle chassis having a plurality of openings and a plurality of composite armor plates for absorbing and dissipating kinetic energy from high velocity, armor-piercing projectiles, each of said plates being adapted for attachment to said chassis and sized to cover at least one of said openings wherein each of said plates comprises a single layer of bodies which are directly bound and retained in plate form by a solidified material wherein a majority of each of said bodies is in direct contact with at least four adjacent bodies, wherein the solidified material and the plate are elastic and wherein said bodies having a specific gravity of at least 2.4 and are made of a ceramic material, wherein said plate constitutes an outer, impact receiving panel of a multilayered armor panel further comprising an intermediate layer adjacent to said outer plate, comprising a second ballistic panel, wherein said outer plate serves to deform and shatter an impacting high velocity armor-piercing projectiles and said second ballistic panel is adapted to retain any remaining fragments from said projectile and from said bodies and to absorb remaining energy from said fragments and further comprising a third innermost backing layer for absorbing trauma.